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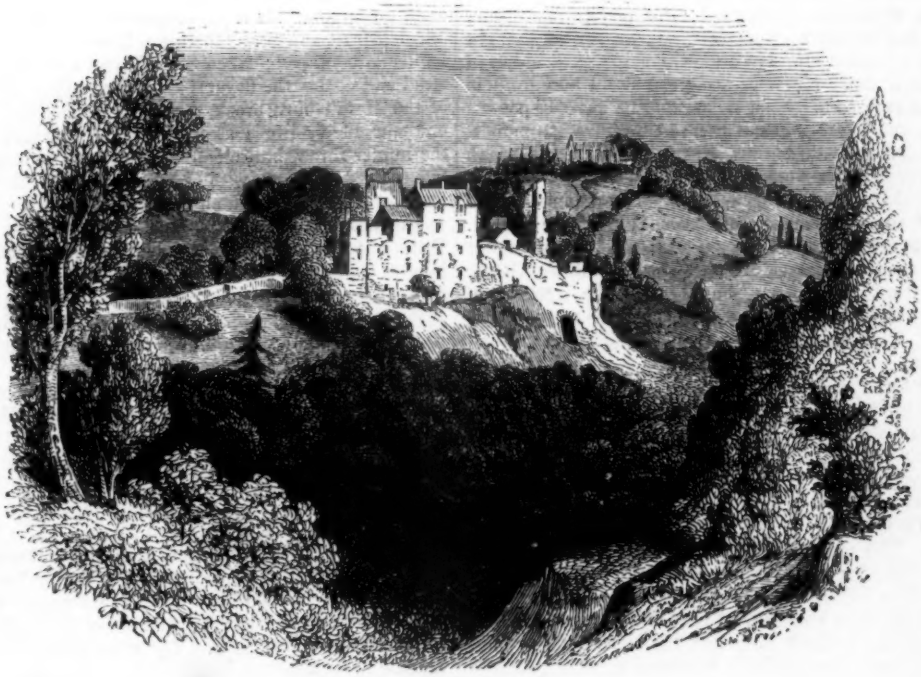
ROSLIN CASTLE.



[Ruins of Roslin Castle and Chapel.]

ROSLIN Castle is situated in the parish of Lasswade, about seven miles south of Edinburgh. It stands upon a lofty detached rock rising from a deep glen, and overhangs the river North Esk, which here makes a rapid turn and dashes foaming along over its rugged bed at the base of the hill. The scenery around is almost unequalled for its picturesque beauty and grandeur. Whilst on the one side the castle is defended by the Esk, which, winding among abrupt and towering precipices clothed with a most luxuriant vegetation, is itself in many parts inaccessible, on the other the plain is separated from the neighbouring country by the deep glen, which is also beautifully wooded, and over which the castle is approached by an ancient narrow stone bridge and through a gateway originally of great strength. The castle now consists of little else than a mass of ruined walls, in the centre of which a comparatively modern building has been erected, in a style, however, that harmonises with the older remains. Sir William Hamilton, who was concerned in the treasonable designs of the Earl of Douglas, was confined here in 1455. In 1544 the castle was burned by the English forces of Henry VIII., under the Earl of Hertford, and in 1650 it was surrendered to General Monk for the parliament. The founder of Roslin is supposed to have been William de St. Clair, who received a grant of the barony of Roslin from Malcolm Canmore, and whose father, Waldernus de St. Clair, came over with the Conqueror. This family gradually acquired immense power and distinction, styling themselves Earls of Caithness and Orkney, Dukes of Oldenburg, &c., &c. Many additions to the original edifice appear to have been made by William de St. Clair in the fifteenth century, who also built the famous chapel. This nobleman and his countess made Roslin a most imposing example of the feudal magnificence of the period. "He builded the church walls of Rosline, having rounds with fair chambers and galleries thereon. He builded also the forework that looks to the north-east. He builded the bridge under the castle and sundrie office-houses. In the south-east side thereof, over against the chapell wall, he made plaine the rock on which the castle is builded for the more strength thereof, and he planted a very fair orchard. But his age creeping on him made him consider how he had spent his time past, and how to spend that which was to come. Therefore, to the end he might not seem altogether unthankfull to God for the benefices receaved from him, it came in his minde to build a house for God's service of most curious work, the which, that it might be done with greater glory and splendor, he caused artificers to be brought from other regions and forraigne kingdomes, and causd dayly to be abundance of all kinde of workemen present, as masons, carpenters, smiths, borrowmen, and quarriers, with others. The fundation of this rare worke he causd to be laid in the year of our Lord 1446, and to the end the worke might be more rare, first he causd the draughts [or designs] to be drawn upon Eastland boards, and made the carpenters to carve them according to the draughts thereon,

and then gave them for patterns to the masons, that they might therby cut the like in stone: and because he thought the masones had not a convenient place to lodge in near the place where he builded this curious colledge (for the towne then stood half a mile from the place where it now stands, to wit, at Bilsdone burne), therfor he made them build the towne of Rosline that is now extant, and gave every one of them a house and lands answerable therunto. So that this towne all that time, by reason of the great concourse of people that had recourse unto the prince (for it is remembred of him that he intertaind all his tennants that were any way impoverishd, and made serve all the poore that came to his gates; so that he spent yearly upon such as came to beg att his gates 120 quarters of meale), became very populous, and had in it abundance of victuals, so that it was thought to be the chiefest towne in all Lothian, except Edinburgh and Hadintone. He rewarded the masons according to their degree: as to the master masone, he gave 40 pounds yearly, and to every one of the rest he gave 10 pounds, and accordingly did he reward the others, as the smith and carpenters, with others."*

This chapel still forms an exquisite monument of the taste of the architect, the founder, and of the period. There is not perhaps a more perfect or a more elegant specimen of what is commonly called the florid Gothic style extant. This style, however, in the instance of Roslin Chapel at least, is a compound of many styles, uniting, it is said, the Egyptian, Grecian, Roman, and Saracenic. The arch in particular is exhibited in all its possible forms and principles, there being no less than thirteen varieties. The interior is divided into a centre and two aisles by two ranges of clustered pillars, supporting a vaulted and decorated roof. The capitals of the pillars are encircled with foliage, and are ornamented with various figures representing scenes of Scripture history. One of the pillars is beautifully wreathed with foliage. The arches between the pillars are wonderfully rich, as indeed is almost every part of the building. The structure is incomplete, the chapel, as it is called, consisting only of a chancel and part of the transept. The height within is about forty feet, the breadth thirty-four, and the length sixty-eight. The sacristy, vestry, or subterraneous oratory, was founded by the lady of the founder of the chapel, "Dame Elizabeth Douglass." The chapel itself was completed by Sir Oliver Sinclair, the founder's son, whose promotion to the command of the Scottish army, raised for the invasion of England, created the disgust which brought on the route at Solway Moss. The establishment was at that period intended for a provost, six prebendaries, and two singing boys. During the Revolution the edifice received considerable damage; perhaps its present incompleteness of outline is owing to the injuries then received. In a vault beneath the chapel pavement were buried ten barons of the family, encased in their respective suites of armour: in this state they lay on the floor without coffins. Sir Walter Scott alludes to this circumstance in his 'Lay of the Last Minstrel,' where he describes an old superstition attached to the family, that at the death of any one of its members, the chapel was to be seen covered with flames, without however experiencing any injury. There is here the tomb of a Sir William St. Clair, with a representation of the knight in armour, and a greyhound at his feet; and on the capital of one of the columns are the figures of a deer and a boy: both the tomb and the figures are supposed to refer to the chief actors in the following traditional story:—

Robert Bruce, king of Scotland, in following the chase on Pentland Hills, near Roslyn, had often started a "white faunch deer," which had as often escaped from his hounds. Surprised at this, the monarch asked his nobles one day when they were assembled round him, if any of them had dogs which they thought would be more successful? At first all were silent, for the true courtiers were fearful of offending by even hinting at a competitorship with the king. At length Sir William St. Clair of Roslyn boldly but unceremoniously said, "he would wage his head that his two favourite dogs Hold and Help would kill the deer before it could cross the March-burn." The king instantly caught at his unwary offer, and betted the forest of Pentland Moor against the proposed wager. An early time was appointed to decide the event; all were expectant, all were anxious; the heart beat alternately with hope and fear. The hunters reach the "heathern steeps," and Sir William, posting himself in the best situation for slipping his dogs, prayed devoutly to Christ, the Virgin Mary, and St. Katherine. The deer is started, the hounds are slipped; when Sir William spurs his gallant steed and cheers the dogs. The deer reaches the middle of the March-burn brook, the hounds are still in the rear, and our hero's life is at its crisis. An awful moment: the hunter threw himself from his horse in despair, and fate seemed to sport with his feelings. At this critical moment Hold fastened on his game; and Help coming up, turned the deer back, and killed it close by Sir William's side. The generous monarch embraced the knight, and bestowed on him the lands of Kirktown, Logan House, Earnsham, &c., in free-forestie. Sir William, as an acknowledgment, and in gratitude for St. Katherine's intercession, built a chapel to her memory in the Slopes, where its cemetery still remains. The hill where the monarch viewed the chase is yet called the King's Hill, and the place where Sir William hunted is still called the Knight's Field.*

Near Roslin Castle were fought no less than three battles in one day, Feb. 24, 1303, between the English, under the command of John de Segrave, and the Scotch, under Sir Simon Frazer and John Comyn. The English, consisting of 30,000 troops, were divided into three bodies, posted at some distance from each other. The Scotch, who, according to their historians, did not exceed in number 10,000, attacked the first division of the English, and completely overpowered it. The other divisions, now advancing, were attacked one after the other, and both also defeated. Hawthornden, the beautifully romantic seat of the poet Drummond, is within half a mile of Roslin Castle.

* Manuscript Memoir of the House of Douglas, in Richard Augustine Hay's collections.

* Britton's 'Architectural Antiquities:' Account of Roslin Chapel.

HISTORY OF A MAHOGANY TABLE.—II.

[Continued from No. 530.]

THE transformation of a mahogany log into a table does not always imply that the whole table is made of mahogany; for if the surface of the top, or bed, and the legs, are formed of that wood, it obtains the name of a mahogany table, whether the concealed parts be made of that wood or of deal. The cheaper the article produced, the more likely are the unseen parts to be made of common materials. Let us suppose then that our table is to present a respectable appearance at a moderate price; that the broad surfaces are veneered, and that the turned legs, &c. are made of solid mahogany.

The first thing to be done is to form the framework, which is to be supported by the legs, and which is in its turn to support the top of the table. This framework may be considered in the light of neat carpenter's or joiner's work, so far as joints, &c. are concerned. The planks which are to form it are selected of the proper thickness, and sawed to the proper width. This operation of sawing is not so easy as lookers-on are apt to imagine. The plank is laid across one or two sawing-stools, and the saw penetrates it nearly in a perpendicular direction; but if the latter be held too upright, it is liable to tear away splinters from the under side of the

wood; and if the blade of the saw be not kept rigorously in the same plane, it will be worked with great difficulty, and the wood will be cut in a crooked direction. The saw used for cutting or "ripping" a plank into narrower pieces has no frame or strengthener at the back edge, since this would impede the progress of the saw through the wood. The cross-cutting of the pieces to the requisite lengths is a less difficult task, on account of each cut being only a few inches in length.

The next operation after the cutting of the planks is that of planing or smoothing the various surfaces. This is sometimes done when the plank is in the whole or uncut state; but whether before or after the sawing, the mode of producing a smooth surface is pretty much the same. There are planes of different sizes employed, according to the roughness of the wood. The first is a long coarse plane called the jack-plane; and with this the first roughness of the wood is taken off. It is succeeded by another plane, rather broader and heavier, called the trying-plane: this has a very smooth and true edge, and brings the surface of the wood to a true level. But it is likely to happen that neither of these planes is capable of reaching any little depression there may be in the surface of the wood, and that the latter accordingly remain rough. In such a case a third plane is used, called the smoothing-plane; it is much smaller than the others, and is particularly useful where the wood is hard, or where the pieces to be planed are of small size. The plank or piece of wood, while being planed, is kept firmly down upon the bench by means of a stop or fastening at the end; and while the edge is being planed, the plank is fixed edge uppermost in a kind of long vice attached to the front of the workman's bench. During the progress of the planing, squares are occasionally used, to determine the true level of the surface, the rectangular position of the edges, &c. These squares are of different kinds and sizes, according to circumstances; but there are generally two arms or branches fixed at right angles to each other.

The modes of sawing and planing do not differ much for the different parts of a piece of furniture. Whether we are speaking of the top or bed of a table, the framework, or the drawers (if it have any), the various pieces are cut or planed nearly in a similar manner, the chief difference being that the harder the wood may be, the sharper and better must be the tools employed to work upon it. If, however, any portion of the woodwork be curved or arched for the sake of ornament, the sawing then requires more care, since the saw has to be carried round in the direction of the curve, instead of following a straight course.

One distinction between the work of the carpenter and that of the cabinet-maker is, that the latter uses very few nails to secure the different portions of his work; while the former uses a great number. Numerous as are the pieces forming a mahogany table, there is scarcely an iron nail to be found throughout it. One reason for this is that the head of a nail would present an unsightly appearance in a mahogany article of furniture; but besides this, peculiar joints are made, which, with the aid of glue, render the use of nails quite unnecessary. A great variety of joints are known to the cabinet-maker, each of which is useful under different circumstances. One is called mitreing, and is similar to that by which the corners of picture-frames are joined. Where two pieces of wood are to be joined at right angles to each other, if the ends be cut at an angle of 45°, and then fastened together, the right angle is produced. This is called mitreing, and is thus effected:—the pieces of wood are placed in or close to a mitre-box, which is a contrivance for guiding the saw exactly at the required angle, so that the ends of the pieces of wood to be joined may be cut off at that angle (45°): the mitre-box is then exchanged for a shooting-board, which is merely a guide for a large plane, by which the angular end of the piece of wood is planed quite smooth without altering the angle. The pieces thus prepared, when glued together, would constitute a rectangular frame. Another kind of joint, still more frequently used by the cabinet-maker, is that called dove-tailing. This is a curious kind of interlacing of the ends of one piece of wood with those of another; the end of one piece being cut into a series of notches or holes, and the end of the other piece, to be joined to the first, being cut so that projecting pins shall be left to fit into those notches. Each piece of wood is fixed endwise in a vice, and the shapes and sizes of the notches and pins marked in pencil. By the united aid of a small saw and a sharp chisel, little pieces are cut from the two ends of each piece of wood, in a somewhat battlemented manner, and with such uniformity, that the pins of one piece shall be exactly the same size and shape as the notches in the other. Sometimes this dove-tailing is done in such a peculiar manner that nothing of it appears externally. As to the term dove-tail, it appears to have arisen from a fancied resemblance between the pins and the shape of a dove's tail, though this resemblance is certainly somewhat forced.

It is by the last-mentioned kind of joint that the frame of a table is generally put together, glue being used to assist in retaining the joints. Of glue we may merely remark that it is produced from the hoofs of oxen, and other coarse animal substances containing gelatinous matter, which are boiled in water to the consistence of a stiff jelly: this, whatever be the nature of the woodwork on which it is employed, is laid on with a brush while quite warm; and if the joint be well made, it will become, when the glue has hardened, nearly as firm as the solid wood itself. In the frame of a table, after the dove-tailing and glueing of the joint are completed, there are generally blocks of wood placed in the angles and corners, to assist in keeping the frame work together; and if the table be large, there are cross-pieces, or strengtheners, placed from side to side of the frame.

We suppose our table to have one or two drawers, of which the front will be made either of solid mahogany or veneered upon deal, and the bottom, back, and sides will be either of mahogany or deal, according to the excellence and price of the article to be produced. In either case the drawer itself is made nearly in the same way; it is in fact a neat kind of box, of which the front only is required to have anything like a handsome appearance. The corners or joints of a drawer are usually dove-tailed, and strengthened by small blocks of wood afterwards glued in. The thickness of the wood required for the drawer will depend usually on its size, but the front, which is the only part that meets the eye when the drawer is closed, is usually stronger and thicker than the other parts, in order to afford sufficient space for the handle, keyhole, lock, &c. The framework of the table must of course be so shaped as to leave a neat and well-fitting groove in which the drawer may slide. It is not necessary for the drawer to rest or slide on a bottom of wood; it is sufficient that a ledge or groove exist at the side of the drawer which shall work in a convenient way in the side of the frame.

The legs of the table, if they be square or nearly square, can be prepared by the cabinet-maker out of a thick plank of mahogany by the aid of his saws and planes; but as it is usual for a mahogany table to have turned legs, we will assume such to be the case in the present instance. In such a case the cabinet-maker has very little to do with the legs until the turner has performed his part, for it is very seldom that a cabinet-maker is at the same time a turner. The art of turning is familiar enough to those who have witnessed it; but to those who have not, it is difficult to convey a description in writing. The piece of wood to be turned is first brought by the saw into something approaching to the

proper dimensions, and then fixed upon an instrument called a lathe, in such a manner that a rapid rotatory motion may be given to it, by the pressure of the foot of the workman on a treadle beneath. The humble itinerant knife-grinder's machinery will show us how a rotatory motion is produced by such means. While the piece of wood is rotating, the turner places a sharp chisel or gouge against its surface, so as to cut away the wood as fast as new portions are presented to its edge by the rotation. In sawing, planing, or carving, the cutting-tool moves onwards, while the wood is stationary; but in turning, the tool is nearly stationary, and the wood turns round to meet its edge. Considerable dexterity is required in preventing the cutting-tool from digging too deeply into the wood, or from varying its distance from the axis of the piece of wood. As a circular leg for a piece of furniture is almost always more or less ornamented with mouldings, curves, &c., these mouldings are produced by using cutting-tools of different sizes and shapes, and by cutting deeper towards the axis of the wood in some places than in others. The varieties of pattern that may thus be produced are of course interminable, and great scope is left for the workman to display his taste. Where the table, such as we now suppose it to be, is one standing on four legs, the turning is in general not so ornamental as in those large central tables where there is one massive leg or pillar in the middle, supported by a kind of plinth beneath; in the latter case there is generally some carving introduced in addition to the turning, which is the work of another kind of workman; but this we need not consider here. The mahogany employed for the leg of the table is inferior in quality to that which is cut up into veneers, but superior to that employed for parts of the furniture which are but little seen; and as the legs are not veneered, the surface of the wood of which they are made must be brought to an appearance, as to smoothness, &c., fit to meet the eye.

The upper end of each leg is generally left square, and either fastened to the framework of the table in some secure manner, or else the pieces which form the frame are fixed to the legs instead of being framed to each other end to end. Where the parts are united in the last-mentioned manner, the joint is generally that which is called tenon and mortise, a kind of joint which is very much used in carpentry, but not so extensively in cabinet-making; dove-tailing is usually employed when two pieces of wood are joined end to end; but tenon and mortise is the more frequent joint when the end of one piece of wood is fixed to the side of another: the latter is the case with respect to the legs and frame of a table. The tenon-and-mortise joint consists simply in this:—a hole is chiselled completely or partially through the thicker piece of wood (in this instance, the leg): the height and width of this hole are rather less than the width and thickness of the smaller piece; and the end of the latter is cut away until it exactly fits the hole. When the two pieces are fixed together, the mode of joining can scarcely be seen, and yet possesses considerable strength. The mode of fixing the legs to the framework must depend principally on the form of the table, and whether or not there is a drawer to it; and more or fewer strengthening blocks will be required according to the size of the table.

There are two other points which we have to mention respecting the legs of our table, viz. the hinges and the castors. One of the most useful contrivances in a table is that of having moveable flaps, which move on hinges, so that the table can be reduced within a narrower compass when not in use. In this case the bed of the table consists of three pieces, of which the two at the sides are connected with the central ones by hinges: these hinges allow the flaps to fall when there is no support beneath; but when the flaps are to be raised to a horizontal position, there must be something to support them. Now, this support is sometimes produced by fixing two of the legs, not to the firm frame of the table, but to separate pieces connected with the frame by hinges. Each moveable leg thus does double service. When the flap is down, the leg is in its proper place at the corner of the frame of the table; but when the flap is up, the leg is brought round beneath the middle of it as a support. In other cases all the legs are fixed in their proper places, and there are one or two brackets hinged to the outside of the frame in such a manner as to form supports of the flaps, when the latter are lifted up, and the brackets are turned round on their hinges. If this mode be adopted, the hinges employed for the brackets are generally the ends of the pieces of wood themselves, cut so as to lap into one another, and an iron wire or spindle is run through them as an axis.

As to the castors, they are little brass wheels affixed to the bottom of the legs; but they not only have a revolution on their spindles or axes, for the axes themselves turn round, so that the wheels may turn in any direction. Much ingenuity has been shown of late years in the construction of castors; having for their object the ensuring of an easy movement of a piece of furniture to any part of the room: the cabinet-maker has, however, nothing further to do than to screw them to the legs of the table, &c.

The important affair of making the veneered top to our table has yet to be described; this we must postpone to another article.

Illustrations of the Permanence of communicated Motion.—It is in the case of a revolving body that we can most effectually diminish these resistances to motion, by causing it to be supported and to turn on a very small surface, as compared with the dimensions of the body itself; as, for instance, a large wheel round a slender axle, or a large spinning-top on a fine point, by which contrivance the resistance of friction is made to act at a great mechanical disadvantage as compared with the force of the body's rotation; and we may, further, remove the resistance of the air, almost to any degree we choose, by placing the revolving body under the receiver of an air-pump. Now, if we thus remove the air from the receiver of an air-pump, and then, without re-admitting it, by some mechanical contrivance put rapidly in motion under the receiver a large wheel with an exceedingly small axis, or, better, a large spinning-top with a fine hard point, we shall find that motion, which would under other circumstances soon cease, lasting, apparently unaltered, for hours: and a pendulum, delicately suspended on knife edges, and having thus yet greatly less friction to contend with than either the axis of a wheel or the point of a top, when once a motion has been given to it, will retain the force of that motion, and continue to oscillate with it for more than a day. Mr. Roberts, of Manchester, is said to have constructed a body which is of such a form, and so truly balanced upon a fine point, that having put it in motion round that point, it would not lose the force of its motion, but continue to spin with it for forty-three minutes. These are all proofs of a tendency to the permanence of motion, and the force of motion which accompanies it, when causes of retardation from without are more or less removed; that is, of its tendency to absolute permanence, so far as any cause within itself is concerned. It does not die or diminish of itself; there is within it no principle of death or decay,—to cease, it must be operated upon by causes external to itself. The proofs hitherto given show, however, only the probability of this truth. When we continually diminish the external causes of a body's retardation, its motion approaches to a state of permanence; and it is probable, therefore, that if we were completely to take away those causes of retardation, permanence of motion would be completely attained. But we cannot take away these causes of retardation—we cannot completely take away friction and the resistance of the air: we can therefore only speak of what would probably happen if these were completely removed. To complete the proof, we must look out for some case of motion, in which there is no friction, and no resistance of the air. Such a motion we cannot find on or near the earth's surface, but we do find it in the heavens. —*Moseley's Illustrations of Science.*

THE PREVENTION AND EXTINCTION OF FIRES.—I.

[Fire-Bell Gate (in which the Curfew was formerly rung), Barking, Essex.]

The sudden destruction of a building by fire is an occurrence so likely to result from the quantity of wood usually employed in the construction of dwellings, &c., and so awful in its consequences, that no wonder need be felt at the precautions and regulations adopted in most countries for the prevention, or at least the extinction of fires. The principal of these precautionary measures we will briefly describe.

Beckmann bestowed much pains on the inquiry, whether any plans were in operation among the ancients for the prevention of fires; but the result obtained is not very satisfactory, chiefly from the difficulty of knowing the precise meaning of terms employed by some of the classical writers: for instance, the word 'sipho' has been used to designate an instrument employed at Rome to extinguish fires; and much indecisive discussion has arisen as to whether that instrument bore any kind of relation to the modern fire-engine. There was, however, a plan proposed by Apollodorus, an architect in the employment of the emperor Trajan, which is capable of being clearly understood; it consisted in the employment of leathern bags filled with water, and having long pipes fastened to them in such a manner that, by pressing the bags, the water might be forced through the pipes to the spot which was in flames. How far this plan was acted on we have no means of knowing. There was an ordinance in force among the Romans, by which each citizen was ordered to keep water always in readiness in his house for the extinction of accidental fires; and in addition to this, there were in Rome, as well as in many other cities, patroles or watchmen, who perambulated the streets at night, both to give an alarm in case of fire, and to guard the houses from robbery, &c.; these watchmen were in some instances provided with bells, and in others with horns.

The cities of the East, both in ancient and in modern times, have been peculiarly subject to calamities by fire, arising principally from the large amount of wood employed in their construction. The suburbs of Constantinople have been repeatedly destroyed or injured from this cause; and the notions of the Turks respecting fatalism act as a great barrier to the adoption of judicious preventive measures. The following remarks of Kempfer, with regard to Japan, will apply to many other parts of the East:—"The houses in Jeddo are small and low, as indeed they are in all other parts of the empire, built of fir-wood, adorned within, and divided into rooms with paper screens and latticed windows; the floors are covered with fine mats, and the roofs with shavings of wood. In short, the whole machine is a composition of such combustible matter, that we need not wonder at the great havoc which fires make in this country. Almost every house has a place under or upon the roof where a tub full of water is constantly kept, together with a couple of mops, which may easily be reached, even outside the house, by the help of a ladder. By this precaution they often quench a fire in particular houses; but it is far from sufficient to stop the fury of a raging flame."

Passing from the countries of the East to those of Europe, we find that precautionary measures were adopted several centuries ago in the cities and towns of Germany, with a view not so much of preventing fires as to give notice to the inhabitants directly a fire broke out. As early as the year 1351, there was a regulation made at Erfurt, that two watchmen should be placed on every steeple at night to look out for fires; and in most fortified cities the guards appointed to look out from the towers and elevated spots, were to direct their attention as much to fires within the town as to the sudden approach of an enemy from without.

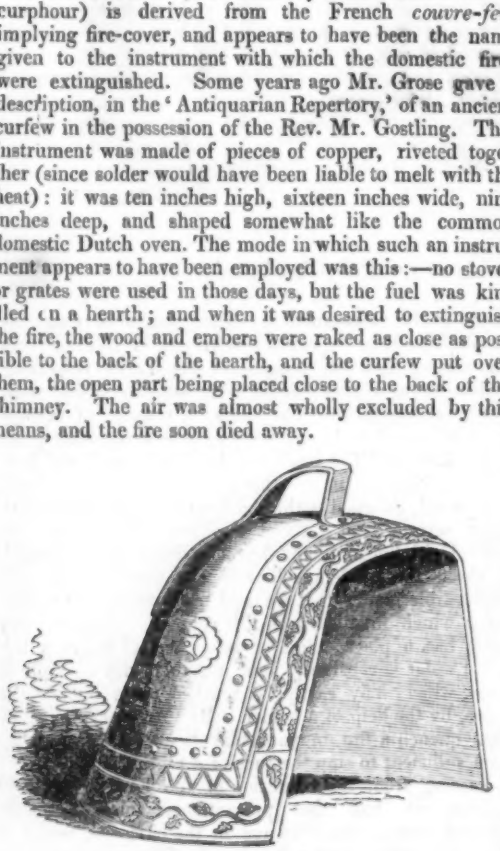
With regard to England, a good deal of discussion has arisen concerning the introduction of the curfew, the earliest regulation concerning fires. William the Conqueror made a law that at the ringing of the curfew-bell, at eight o'clock in the evening, all his subjects were to extinguish their fires and retire to rest. This law has

been made the theme of many accusations against William, as a tyrant and oppressor; and under that impression Thomson wrote the lines—

> "The shiv'ring wretches, at the Curfew sound,
> Dejected sank into their sordid beds,
> And through the mournful gloom of ancient times,
> Mused sad, or dreamt of better."

But whatever else we may think of William's motives, the rude and fragile construction of the dwellings of those periods made the law in many respects a judicious one, by lessening the probability of fire. It appears too that William's law was merely an extension of one which had been made by Alfred the Great, and which was limited to the town of Oxford. In many parts of the Continent likewise, the use of the curfew was so common as to justify William in some respects for the law which he made. Even so late as the latter part of the seventeenth century a fire-bell was rung at a certain hour in the evening at Vienna, as a signal to the inhabitants to extinguish their fires within doors, and to hang up lanthorns in front of their houses.

The term curfew (called also by some Scottish writers curphour) is derived from the French *couvre-feu*, implying fire-cover, and appears to have been the name given to the instrument with which the domestic fires were extinguished. Some years ago Mr. Grose gave a description, in the 'Antiquarian Repertory,' of an ancient curfew in the possession of the Rev. Mr. Gostling. This instrument was made of pieces of copper, riveted together (since solder would have been liable to melt with the heat): it was ten inches high, sixteen inches wide, nine inches deep, and shaped somewhat like the common domestic Dutch oven. The mode in which such an instrument appears to have been employed was this:—no stoves or grates were used in those days, but the fuel was kindled on a hearth; and when it was desired to extinguish the fire, the wood and embers were raked as close as possible to the back of the hearth, and the curfew put over them, the open part being placed close to the back of the chimney. The air was almost wholly excluded by this means, and the fire soon died away.



Couvre-feu.

From a drawing furnished through Francis Grose, from the Rev. F. Gostling, in 'Antiquarian Repertory,' vol. i.

When the custom of ringing the curfew-bell at eight o'clock in the evening ceased, many towns and large buildings were provided with a fire-bell, that is, a bell which, being rung only when a fire occurred, was sure to attract the attention of the neighbours, and to induce them to render speedy assistance. Such bells are still occasionally to be seen attached to old buildings. It was stated a few years ago, that at Hoddesdon, in Hertfordshire, the old curfew-bell, which was anciently rung at four in the morning and eight in the evening, as a signal for the kindling and the extinction of fires and candles, is still in existence; but that the only use to which it is now applied is to warn the inhabitants at four in the morning of Shrove Tuesday, that pancake time is arrived, and at eight, in the same evening, that this annual feast has terminated; and that the inhabitants, by an old custom, strictly conform to this regulation.

It will be obvious that patroles, fire-bells, &c. are of no avail for the prevention of fires; they are only calculated to bring speedy assistance after a fire has broken out. The only means of preventing a fire are—increased care on the part of individuals, and the employment of incombustible materials in the construction of houses; and to attain the latter point as nearly as possible has been the object of much attention among ingenious persons. In the early part of the last century Dr. Hales communicated to the Royal Society a method of preventing the spreading of fire, founded on an experiment which he made on the non-conducting powers of earth and sand. He put a layer of damp garden-mould, about an inch thick, on a piece of fir-plank about half that thickness; he then kindled a fire on the mould, and kept it up pretty fiercely by blowing: two hours elapsed, however, before the plank was burned through, and this occurred without any flame. He therefore proposed to protect a house adjoining another which is on fire, by covering the stairs and floors with a layer of damp sand or earth.

About seventy years ago Mr. Hartley devoted a good deal of attention to the perfecting of a method by which the liability of firing a house might be lessened: this method was to nail thin iron plates to the tops of the joists beneath the flooring-boards, and in every other part where practicable, in order to prevent the communication of flame from one part to another. The same period witnessed the prosecution of experiments to obtain similar results, on the part of Earl Stanhope, who distinguished himself by many ingenious suggestions and inventions in matters relating to the arts and sciences. He proposed to fix oak or fir laths crosswise between the joists, and to coat the whole, both joists and laths, with a thick layer of plaster: this plaster was composed of one measure of common rough sand, two of slacked lime, and three of chopped hay, mixed with water and beaten up into a stiff mortar. A layer of sand was placed on the plaster which covered the joists and laths; and when the plaster and sand were quite dry, the flooring-boards were to be laid down. Mr. Hartley and Earl Stanhope, both of whom were influenced by benevolent motives, and without any view to pecuniary interest, made a great number of experiments on the efficacy of their respective modes in preventing the spread of fire; but although the result of their experiments seemed to be satisfactory, it does not appear that their methods were acted on by others.

Many somewhat similar attempts have been made during the present century; but the one which seems to have been most successful is that which was largely noticed about two years ago in the public journals, and which is due, we believe, to a Mr. Davies. A house, or rather the shell of a house, was purchased, near London; and the whole of the timbers, floors, ceilings, stairs, and other portions of wood-work were completely coated with a certain composition. When this was dried, some of the rooms were furnished with the common articles of domestic furniture, small in value, but of the usual nature as to combustibility, &c. A large quantity of shavings and pieces of wood was strewed on the floors of the several rooms; and on a given day each room was set on fire. Every article in each room was completely consumed; but in no one case did the fire penetrate to the wood-work of the room, or pass from one room to another: some gunpowder was placed between the ceiling of one room and the floor of the one above it; but neither the fire above nor that beneath had any effect on the gunpowder. A similar experiment was made at another spot; and, we believe, the result was such as to lead to the formation of

a company to carry the plan into operation on a larger extent.

Within the last few years plans having the same object in view have been suggested in great number; in some it is proposed to line ceilings, &c. with sheet-iron; others for sheet-iron substitute sheet-zinc; some advocate a joint employment of sheet-iron and plaster; and others again give recipes for fire-preventive paint, to be applied in the manner of common oil-paint to the surface of wood. In short, attention is now so much directed to this subject, that we may fairly expect the time to be not very far distant when the principle of fire-prevention will form part of the system by which most houses will be built; until this is done, we may look forward to a repetition of the same kind of distressing calamity by fire which so often comes under the public eye.

THE SWEATING SICKNESS OF THE FIFTEENTH AND SIXTEENTH CENTURIES.

The epidemical visitations of this fatal disease, called also, from its being erroneously supposed to be limited to the English, the "English Sweat," or "English Disease," and "Ephemera," from its attack only occupying one day, presented some features of an extraordinary and interesting nature.

Appearing for the first time in the army of the Duke of Richmond, afterwards Henry VII., upon his landing at Milford Haven, in 1485, it soon spread over the kingdom. Holinshed, in his 'Chronicles,' speaking of it, says:—"In the same yeare a new kinde of sicknesse invaded sodeynely the people of this lande, passing through the same from the one ende to the other. It begann about the 21st September, and continued till the latter ende of October, being so sharp and deadly that the lyke was never hearde of to any manne's remembrance before that tyme. For sodeynely a deadly burning sweate so assayled theyr bodies and distempered theyr blood with a most ardent heat, that scarce one among one hundred that sickened did escape with life: for all in manner as soone as the sweate took them, or within a short tyme after, yelded up the ghost. Besyde the great number which deceased within the citie of London, two mayres successively died within eight daies, and six aldermen. Thus this disease comming in the fyrste yeare of King Henrie's reigne, was judged (of some) to be a token and signe of a troublous reigne of the same king, as the profe partly afterwards shewed itselfe."

Another but less severe visitation occurred in 1506. In 1517 it raged with great virulence, and manifested one of its characteristics in attacking, contrary to what is usually the case with epidemic diseases, rather the upper than the lower classes, so that many of the Court fell victims to it, and the law courts were all closed. Speaking of this attack, Holinshed says:—"The sweate was so fervent and infectious, that in some townes half the inhabitants died thereof, and in some a thirde part."

In 1528 it again appeared; but although numbers were attacked, owing to the improvement in the mode of treating the disease, the mortality was not so great. Bellay, Bishop of Bayonne, ambassador here at that period, and himself a sufferer, says that out of forty thousand affected, only two thousand died. But owing to the want of exact registries this can only be supposed an approximation to the truth. However, those of high rank were again the chief victims, and the king himself was at one time in danger. The last irruption of the disease, in 1551, was one of the most malignant. In Westminster alone one hundred and twenty persons died in one day, among whom were two sons of Charles Brandon, both dukes of Suffolk. Dr. Keyes, or Caius, a physician practising at Shrewsbury at that time, gives, in his curious "Booke or Counseill against the disease commonly called the Sweate or Sweating Sicknesse," a copy of which is preserved in the British Museum, a fearful, though quaint description of its virulence, stating that in the town of Shrewsbury alone six hundred perished.

The popular belief in this and other countries was that the ravages of this disease were confined to the English, and that not only were foreigners exempted from its influence while residing here, but that the English were also exclusively liable to it even during their visits in foreign parts. Not only did the disease, however, first manifest itself among the foreign levies of the Duke of Richmond, but foreigners residing in England were not wholly exempted from its influence. Again a similar epidemic ravaged Holland and Germany in 1529, as recorded by Wierus and Erasmus (himself an eye-witness); while another, recorded by Godfrey Welsch as appearing at Leipsic in 1652, traversed nearly all Germany between that date and 1680.

The summer season was the period this disease usually appeared, and it continued active generally from three to five months. The attack was far more sudden, and its progress much more rapid, than that of the plague itself. Persons, especially those who appeared in robust health, were seized under all circumstances, whether occupied in pleasure or business, or even during sleep. In the malignant epidemics, life was sometimes extinct even in one, two, or three hours, the general period of the disease being, however, fifteen; while if the patient survived twenty-four hours, his life was considered as saved. The having had it was no preservative, many being attacked two or three times. It began with pain, great feverishness, and unquenchable thirst, which were presently followed by profuse sweating, during which, in bad cases, the patient speedily sunk. Not only were the poorer sort of persons much less liable, but children and old people were in a great degree exempt, those of middle ages chiefly falling victims.

The nature and cause of this disease has naturally occasioned much discussion. Dr. Caius considers it as a fever derived from infection, to which the high living among the better classes of those times rendered them susceptible; and that the sweating is produced by the efforts nature makes to resist the admission of the noxious agent. Lord Bacon, in his 'History of Henry VII.,' says, "This disease appears rather a surprise by nature than otherwise; for if taken in time, it was not obstinate to be cured." Most authors are agreed as to its infectious nature, and that it probably was imported by the troops brought over by the Duke of Richmond, who were described by a contemporary writer, Philippe de Comines, as being composed of the very dregs or outcasts of society, or that it was generated among these during their passage in the crowded transport-ships. Dr Mead considers the sweating sickness to have been neither more or less than a modification of the common plague, and rather vaguely attributes its various appearances to importations from Turkey. He also instances a very similar disease which occurred in 1713, called the Dunkirk Fever, because brought to this country by the soldiers from Dunkirk, while the true plague was spread from the same source over other parts of Europe. An able writer in the 'Edinburgh Medical Journal' seems to entertain similar opinions, for he says, "Experience has shown that the pestilential fevers which at different times have afflicted mankind, although alike in their principal symptoms, yet differ so much in their mode of attack, and in the train of morbid associations, that they seem, as it were, to constitute so many different diseases; and since words are admitted for explanations, and diseases are classed according to a particular symptom, or to some affection of a particular part, without attending to the whole combination of symptoms, epidemics will have different names at different times; and what one writer calls the plague, another called dysentery, and a third may style the sweating sickness."

Putting aside the disposition of this epidemic to affect especially the robust and that portion of society who were not exposed to want or privation of comfort, many of its other features resemble those of the various visitations with which this country has been afflicted, both in more ancient and more recent times. Among these are its periodical appearance and subsequent entire cessation. The same have been observed in the plague and other analogous diseases; but upon this point we cannot do better than quote another passage from the judicious writer before mentioned, which, by those who recollect the unprepared state in which the cholera found this country, will be found to contain a judicious caution, written long before the appearance of that terrible disease, and attention to which would probably have diminished the number of victims on that occasion.

"If we observe with attention the course of the plague, small-pox, measles, and other contagious diseases, we perceive they all have a tendency to rage with great violence in particular places, after certain intervals. People become negligent of the means of preventing infection, until their attention be awakened by the breaking out of the disease in their neighbourhood; a general inoculation, or a general cleaning and whitewashing, then takes place; tranquillity of mind follows, degenerating soon into a forgetfulness of what has once happened, and indifference to the means of prevention. A new series of calamities is necessary to excite their attention again, and no wonder, when the remedy is applied in a number of places at the same time, that those places should remain free from the disease for nearly the same period; and when the contagion is brought by accident, or is generated in one place, that becomes a signal for others liable to the same fate. This at least seems to be the case with typhus fever and small-pox; and if the vaccine inoculation be not strenuously urged, a vast crop of patients will spring up in a few years, liable to be destroyed by that dreadful plague." That the prophecy concerning the small-pox, delivered in the above sentence thirty years ago, has been amply verified, may be judged from the well-known increase of that disease of late years, and the recent determination as to the propriety of legislative interference for the extension of the safety afforded by vaccination.

The latter epidemical attacks of the Sweating Sickness were much less proportionally mortal, and this would seem to have been brought about by a mode of treatment not at first of obvious propriety, viz. the encouragement by every possible means of the sweating stage of the disease. Dr. Caius's 'Booke,' itself a most amusing specimen of learned pedantry, is very explicit upon this point, and the directions given imply considerable powers of endurance on the part of the patient. Thus he must be freely plied with warm drinks, nearly smothered with bed-clothes, and sleep strictly forbidden him. "Do not let them on any account sleep, but pull them by the ears, nose, or hair, suffering them in nowise to sleep until such time as they have no lust to do so: except to a learned man in physic, the case appears to bear the contrary." Holinshed, praising the efficacy of this mode of treatment, says:—"Mark one point diligently: above all others, this one is to be observed, that he never put his hande or feete out of the bed to refreshe or coole himselfe, which to do is no less jeopardie than short or present death."

M. Rayer has published a description of a very similar though far less mortal epidemic which visited the departments of the Seine and of the Oise in 1821: of two thousand six hundred and fifty-seven persons attacked, only one hundred and sixteen died. He has collected accounts of a great number of other epidemics which have been known in that part of France under the name of the "Picardy Sweat" from the year 1718 to the time in which he wrote. He also takes occasion to prove, that not only other parts of France, but that Italy, Switzerland, and Germany have on various and frequent occasions been liable to similar visitations since the occurrence of the Leipsic epidemic in 1652.

All knowledge communicated in the right manner, in due degree, and at fit times, is but the handmaid to religion and virtue; and in proportion as the mind is purified and elevated by true religious principles and feelings, the natural healthy appetite for knowledge will be increased, and the soil prepared for its reception.—*Mrs. Hippisley Tuckfield's Letters to a Clergyman.*

Camp of the Snake Indians.—Early in the morning I strolled into the Snake camp. It consists of about thirty lodges or wigwams, formed generally of branches of trees tied together in a conic summit, and covered with buffalo, deer, or elk skins. Men and little children were lolling about the ground all around the wigwams, together with a heterogeneous assemblage of dogs, cats, some tamed prairie wolves, and other '*varmints*.' The dogs growled and snapped when I approached, the wolves cowered and looked cross, and the cats ran away and hid themselves in dark corners. They had not been accustomed to the face of a white man, and all the quadrupeds seemed to regard me as some monstrous production, more to be feared than loved or courted. This dislike, however, did not appear to extend to the bipeds, for many of every age and sex gathered around me, and seemed to be examining me critically in all directions. The men looked complacently at me—the women, the dear creatures, smiled upon me; and the little, naked, pot-bellied children crawled around my feet, examining the fashion of my hard shoes, and playing with the long fringes of my leathern inexpressibles. But I scarcely know how to commence a description of the *tout ensemble* of the camp, or to frame a sentence which will give an adequate idea of the extreme filth and most horrific nastiness of the whole vicinity. I shall, therefore, but transiently glance at it, omitting many of the most disgusting and abominable features. Immediately as I entered the village, my olfactories were assailed by the most vile and mephitic odours, which I found to proceed chiefly from great piles of salmon entrails and garbage which were lying festering and rotting in the sun around the very doors of the habitations. Fish, both fresh and half-dried, were scattered all over the ground, under the feet of the dogs, wolves, and Indian children; and others which had been split were hanging on rude platforms erected within the precincts of the camp. Some of the women were making their breakfast of the great red salmon eggs, as large as peas, and using a wooden spoon to convey them to their mouths. Occasionally, also, by way of varying the repast, they would take a huge pinch of a drying fish which was lying on the ground near them. Many of the children were similarly employed; and the little imps would also have hard contests with the dogs for a favourite morsel, the former roaring and blubbering, the latter yelping and snarling, and both rolling over and over together upon the savoury soil. The whole economy of the lodges, inside and outside, was of a piece with everything else about them, filthy beyond description; the very skins which covered the wigwams were black and stiff with rancid salmon-fat; and the dresses, if dresses they may be called, of the women, were of the same colour and condition, from the same cause. These dresses are little square pieces of deer-skin, fastened with a thong around the loins, and reaching about half way to the knees: the rest of the person is entirely naked. Some of the women had little children clinging like bull-frogs to their backs, without being fastened, and, in that situation, extracting their lactiferous sustenance from the breast, which was thrown over the shoulder. It is almost needless to say that I did not remain long in the Snake camp; for although I had been a considerable time estranged from the abodes of luxury, and had become somewhat accustomed to, at least, a partial assimilation to a state of nature, yet I was not prepared for what I saw here. I never had fancied anything so utterly abominable, and was glad to escape to a purer and more wholesome atmos here.—*Townshend's Excursions in the Rocky Mountains, &c.*

*** The Office of the Society for the Diffusion of Useful Knowledge is at 59, Lincoln's Inn Fields.

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